

In re Merat and Cochez, 186 USPQ 471 (CCPA 1975)

**In re Merat and Cochez**

**(CCPA)  
186 USPQ 471**

**Decided Aug. 7, 1975**

**No. 74-588**

**U.S. Court of Customs and Patent Appeals**

**Headnotes**

**PATENTS**

**1. Claims -- Indefinite -- In general (§ 20.551)**

**Construction of specification and claims -- By prior art (§ 22.20)**

**Construction of specification and claims -- By specification and drawings -- In general (§ 22.251)**

Inquiry under Section 112, second paragraph, is merely to determine whether claims set out and circumscribe particular area with reasonable degree of precision and particularity; definiteness of language employed must be analyzed, not in vacuum, but in light of teachings of prior art and of particular application disclosure as it would be interpreted by one possessing ordinary skill in pertinent art; rule also applies in reverse making otherwise definite claim take on unreasonable degree of uncertainty.

**2. Construction of specification and claims -- By specification and drawings -- In general (§ 22.251)**

Question under Section 112, second paragraph, is whether claim language, when read by person of ordinary skill in art in light of specification, describes subject matter with sufficient

precision that bounds of claimed subject matter are distinct.

### **3. Claims -- Indefinite -- In general (§ 20.551)**

Claim language that is not precise enough to indicate what to use to produce result claims require fails to comply with Section 112, second paragraph.

### **Particular patents -- Improving Chickens**

Merat and Cochez, Method of Improving Strains of Chickens, rejection of claims 1-4 of application affirmed.

## **Case History and Disposition:**

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Appeal from Board of Appeals of the Patent and Trademark Office.

Application for patent of Philippe Pierre Jean-Baptiste Merat and Leon Paul Jacques Cochez, Serial No. 812,417, filed Apr. 1, 1969. From decision rejecting claims 1-4, applicants appeal. Affirmed.

### **Attorneys:**

A. W. Breiner, Arlington, Va. (Donald M. Wight, Arlington, Va., of counsel) for appellants.

Joseph F. Nakamura (Henry W. Tarring, II, of counsel) for Commissioner of Patents and Trademarks.

### **Judge:**

Before Markey, Chief Judge, and Rich, Baldwin, Lane and Miller, Associate Judges.

## **Opinion Text**

### **Opinion By:**

Rich, Judge.

This appeal is from the decision of the Patent and Trademark Office (PTO) Board of Appeals

affirming the final rejection of claims 1-4, all the claims in application serial No. 812,417, filed April 1, 1969, entitled "Method of Improving Strains of Chickens." <sup>1</sup> The examiner rejected the claims solely under 35 USC 101 as directed to non-statutory subject matter. The board affirmed this rejection and entered two new rejections of the claims under 35 USC 103 and 112, second paragraph. We affirm on the §112 rejection.

### **Background**

One of the goals of commercial poultry production is, of course, to reduce the cost of producing chickens intended for fattening and subsequent cooking. Appellants claim to have discovered a dwarfism gene in chickens which, when employed in a controlled breeding method, produces dwarf hens which, when mated with "normal" cocks, lay eggs which hatch into chicks that mature into normal size heavy meat fowl of good eating characteristics. The dwarf hens consume less food than hens of normal size, thus reducing the cost of producing hatching eggs, which cost reduction is the sole disclosed advantage of the claimed invention.

Appellants determined that their dwarfism gene is sexlinked, meaning that the gene is carried on the X chromosome of the chicken. <sup>2</sup> In the section of the specification entitled "Summary of Invention," appellants say that the gene for dwarfism, denoted "nr" by them, is recessive to the dominant gene for normal size, denoted "Nr". For reasons developed under Opinion, infra, the statement that nr is recessive is open to question, so we shall use another example, provided by an article <sup>3</sup> cited by appellants in their specification, to explain how the inheritance of sex-linked recessive traits works.

There is, according to the Hutt article, another dwarfism gene in chickens which is known to be a sex-linked recessive, denoted "dw." <sup>4</sup> The dominant normal gene is

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denoted "Dw." <sup>5</sup> The following chart shows the possible phenotypes, or appearances, of chickens with respect to these genes:

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If a dwarf female (dw y) mates with a normal heterozygous male (Dw dw), the following offspring result:

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However, if a normal female (Dw y) mates with a normal *heterozygous* male (Dw dw), the recessive dwarfism trait, hidden in the male, will appear in one-half of the female offspring:  
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### **The Claimed Invention**

Appellants' invention lies in breeding a strain of dwarf hens and thereafter breeding them with "normal" cocks of heavy meat strains, producing offspring claimed to be of normal heavy meat size. The claims read:

1. A process for production of normal chickens from dwarf hens and normal cocks which includes passing through a dwarf breed and a heavy breed into which an nr sex-linked recessive dwarfism gene has been introduced, comprising crossing females of a cooking breed of poultry having good growth and fattening characteristics with cocks of small size which carry the nr gene, causing the animals obtained by this first crossing to reproduce with one another retaining all the subjects of small size which carry the nr gene so as to constitute a basic breed, and coupling the dwarf hens of this breed with any desired breed of normal heavy meat cocks, thereby obtaining, as an industrial product, a chick to be raised as a cooking chicken of normal heavy meat size.

2. The product obtained by the controlled process of claim 1.

3. A process of producing cooking chickens of normal size comprising controllably introducing an nr sex-linked recessive dwarfism gene into a dwarf hen and coupling said dwarf hen with a normal heavy meat rooster to provide siblings of normal heavy meat size.

4. The process of producing cooking chickens comprising the steps of (1) con

trollably introducing a sex-linked recessive dwarfism gene into a heavy breed of chicken; (2) causing said heavy breed of chicken having said dwarfism gene to reproduce; (3) selecting dwarf hens from the siblings of step (2); and (4) coupling said dwarfism [sic] hens with a normal heavy meat rooster thereby obtaining as offspring of said coupling normal size heavy meat cooking chickens.

### **The Rejections**

All the claims were rejected by the examiner under 35 USC 101<sup>6</sup> as directed to non-statutory subject matter, on the theory that a method of breeding animals is not a "process" within the meaning of §101 and that a "thing occurring in nature [presumably the chicken of claim 2] under controlled propagation is not a manufacture." The board agreed with this position and stated further:

Our views on the propriety of the rejection under 35 USC 101 are further strengthened by the provisions of Section 161 of Title 35 relating to plant patents. If Section 101 of Title 35 were interpreted as broadly as appellants would have us interpret it; i.e., to include processes for the breeding of things occurring in nature to improve their qualities; it would be broad enough to include breeding plants also. Thus obviating the need for 35 USC 161. This we do not feel the Congress intended us to do.

The board entered new rejections, designated as such, under 35 USC 103 and 112, second paragraph. The prior art references cited by the board were portions of two general biology textbooks dealing with heredity and genetics.<sup>7</sup> The board reasoned that appellants' process, and the product thereof, would have been obvious to a person of ordinary skill in the art familiar with the Mendelian laws of inheritance as described in the references. With respect to the §112 rejection, the board said:

Claims 1, 2, 3 and 4 are further rejected under 35 USC 112, second paragraph, as not distinctly claiming that which appellants regard as their invention. \* \* \* We also point out that the normal cocks claimed [i.e., those *recited* in the claims] are ones with NR dominant genes. If their genes are not NR dominant, the end product could, even under appellants' process, be a hybrid without the qualities he is seeking [i.e., they would not be "normal"]. This is also a new ground of rejection.

### **Opinion**

We conclude that the rejection entered by the board under §112, second paragraph, must be affirmed. This renders it unnecessary to discuss the other grounds of rejection.

[1]Under the second paragraph of §112, our inquiry, as we stated in *In re Moore*, 58 CCPA 1042, 1046-47, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (1971),

\* \* \* is merely to determine whether the claims do, in fact, set out and circumscribe a particular area with a reasonable degree of precision and particularity. It is here where the

definiteness of the language employed must be analyzed -- not in a vacuum, but always in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by one possessing the ordinary level of skill in the pertinent art. 2

2It is important here to understand that under this analysis claims which on first reading -- in a vacuum, if you will -- appear indefinite may upon a reading of the specification disclosure or prior art teachings become quite definite. It may be less obvious that this rule also applies in the reverse, making an otherwise definite claim take on an unreasonable degree of uncertainty. See *In re Cohn*, App. No. 8357, decided on March 18, 1971, *In re Hammack*, 57 CCPA 1225, 427 F.2d 1378, 166 USPQ 204 (1970).

In *In re Cohn*, 58 CCPA 996, 1001, 438 F.2d 989, 993, 169 USPQ 95, 98 (1971) we applied this analysis:

No claim may be read apart from and independent of the supporting disclosure on which it is based. We are thus required to read the claims in light of the disclosure and in that light the term "opaque finish" as it appears in the preamble of each claim must take on the meaning ascribed to it in that disclosure. The result is an inexplicable inconsistency within each claim requiring that the rejection under 35 USC 112 on grounds of indefiniteness be sustained.

The problem with the claims here lies in the word "normal." At oral argument appellants contended that the term "nor

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mal," as used in the claims, means "normal in size." We shall take them at their word, for if such is the case, the claims, construed in light of the meanings given to words in appellants' disclosure, are inexplicably inconsistent. In *re Cohn*, *supra*. This is what the board meant, we believe, when it said, "If their genes are not NR [which must be the same as "Nr"] dominant, the end product could, even under appellants' process, be a hybrid *without the qualities he is seeking*." (Emphasis added.)

In the specification, in explaining the breeding of the dwarf hens, appellants state (emphasis added):

2. In the year (J + 1) there were coupled as parents, on the one hand:

*Nr nr cocks with nr hens*, forming a product which has been given the identification "*echelon A*," and on the other hand, *Nr nr cocks with Nr hens* of a heavy breed, forming a second, restrengthening crossing, identified as *echelon B*."

Offspring (J + 1) were obtained on the one hand from "echelon A" at the rate of:

*males*: 50% *Nr nr sub-normal*, which were eliminated,  
and 50% *nr nr dwarfs*, which were retained;

females: 50% Nr normal, which were eliminated, and 50% nr dwarfs, which were retained.

and on the other hand, from "echelon B" at the rate of:

*males: All normal, which were eliminated;*

females: 50% normal, which were eliminated, and 50% dwarfs, which were retained.

Under Echelon A, then, male chickens with an Nr nr genotype are "sub-normal."<sup>8</sup> This is not consistent with the description of all the Echelon B male offspring as "normal." A diagram of the Echelon B cross is as follows:

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As can be seen, one-half of the male offspring of the Echelon B cross are Nr nr, which are described in appellants' specification under Echelon A as "sub-normal." The term "normal" must, therefore, describe some Nr nr males and not other Nr nr males; no basis for such a distinction is disclosed in the specification. We conclude that the term "normal" under Echelon A defines cocks with Nr Nr genotype only, while under Echelon B "normal" refers to cocks of either Nr Nr or Nr nr genotype.

Expressed genotypically, the last step of appellants' process crosses an nr y (dwarf) female with either an Nr Nr or an Nr nr male, if the Echelon B definition of "normal" is followed. These two crosses are diagrammed as follows:

I

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II

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If the Echelon A definition of "normal" is accepted, i.e., only Nr Nr genotype producing "normal" phenotype, then the last step of the process is only cross I.

As can be seen from the above, if the Echelon A definition of "normal" is followed, appellants' process produces  $\frac{1}{2}$  "sub-normal" males and  $\frac{1}{2}$  "normal" females. Under the Echelon B definition of "normal," the process produces either all normal offspring (cross I) or  $\frac{1}{2}$  normal and  $\frac{1}{2}$  dwarf offspring, depending on which of two phenotypically identical, i.e., "normal," but genotypically different, cocks is used. The specification gives no clue as to which of these processes is or is not within the scope of the claims. It is further not clear what product is covered by claim 2.

We therefore perceive a conflict within each of the claims. The preamble of process claims 1 and 3 speaks of a process for producing "normal" chickens, and the conclusions of process claims 1, 3, and 4 state "thereby obtaining \* \* \* normal heavy meat size \* \* \* chickens," or equivalent words. Under the Echelon A definition of "normal," only 50% normal chickens are produced by the process; under the Echelon B definition the characteristics of the offspring cannot be predicted.

[2]The language of each claim requires that "normal" chickens, i.e., those of normal heavy meat size, be produced by appellants' process. The question under §112, second paragraph, is whether the claim language, when read by a person of ordinary skill in the art in light of the specification, describes the subject matter with sufficient precision that the bounds of the claimed subject matter are distinct. In this case, if the Echelon A definition of "normal" is chosen, the manipulative steps of the process to be followed are clear, since a "normal" Echelon A cock *must* have the Nr Nr genotype; but an irreconcilable conflict is created because the product, under the Echelon A definition of "normal," will be "normal" only 50% of the time, not substantially all of the time as the claims contemplate. Under the Echelon B definition of "normal," it is not possible to determine what *kind* of "normal" cock the claimed process contemplates to be mated with the dwarf hen in the final step. Nr Nr and Nr nr cocks are both "normal," and hence physically indistinguishable, under the Echelon B definition. As shown by the diagrams of cross I and cross II, supra, the offspring of the Nr Nr cock will all be "normal," while the offspring of the Nr nr cock will be 50% "normal" and 50%

[3]dwarf. Since the claim language is not precise enough to indicate which kind of cock to use to produce the result required by the claims, it fails to comply with §112, second paragraph. Similarly, depending on which definition of "normal" is chosen, the chicken claimed in claim 2 may be either "normal," "sub-normal," or dwarf. This spectrum of possible products cannot be reconciled with the statement in claim 1, from which claim 2 depends, that from the process is



obtained "a chick to be raised as a cooking chicken of *normal* heavy meat size." (Emphasis added.)<sup>9</sup>

We conclude that claims 1-4 do not particularly point out or *distinctly* claim the subject matter of appellants' invention. The decision of the board is affirmed.

### **Footnotes**

Footnote 1. As will appear from the discussion, this title is misleading. Except for one product-by-process claim, the claimed invention is a *process* of producing "normal" chickens for eating purposes at *less expense* by reducing the amount of chicken feed consumed at one stage of production. The application does not show that strains of chickens are "improved" in any way, but only that a breeding stock of a dwarf strain may be maintained and used for appellants' process.

Footnote 2. Sex determination in chickens is different from that in humans. A male (♂) chicken carries two X chromosomes in each cell; a female  
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(?) carries one X and one Y chromosome in each cell.

Footnote 3. F. B. Hutt, Sex-Linked Dwarfism in the Fowl, J. Hered., vol. L, No. 5 (Sept.-Oct. 1959)

Footnote 4. Appellants' specification, after discussing the "dw" gene discussed in the Hutt article, says of the gene they discovered and denoted "nr,"

However, since it was not possible to carry out the necessary genetics work to demonstrate that the newly observed gene and the dw gene were, in fact, identical, the latter [former?] is being called the nr gene with the normal allele gene being called Nr, the dominant.

Footnote 5. According to one of the prior art references cited by the board (Villeg, at p. 187, *infra*):

We may define recessive genes then, as ones which will produce their effects only when an individual has two of them which are identical [or when, in the case of sex-linked recessive genes, the individual having the recessive gene also is of the sex determined by the carrying of a Y chromosome], and dominant genes as those which will produce their effects even when only one of them is present in an individual.

Footnote 6. 35 USC 101 provides:

Whoever invents or discovers any new and useful process, machine, manufacture, or

composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Footnote 7. T. Moon, P. Mann, and J. Otto, *Modern Biology* 623-36 (1956); C. Villee, *Biology* 451-88 (3d Ed. 1957).

Footnote 8. If, as appellants state, the nr gene is recessive, an Nr nr cock should display no dwarfism trait, since a dominant gene will mask the effects of a recessive gene. Defining the phenotype of an Nr nr cock as "sub-normal" raises doubts as to the accuracy of appellants' disclosure of the nature of the nr gene.

Footnote 9. It appears from our examination of the specification that appellants' invention cannot be practiced unless chickens with the nr gene are available. Cf. *In re Argoudelis*, 58 CCPA 769, 434 F.2d 1390, 168 USPQ 99 (1970); *Feldman v. Aunstrup*, \_\_\_ F.2d \_\_\_, 186 USPQ 108 (CCPA 1975). The specification contains no disclosure of where chickens having the nr gene may be obtained, nor does it indicate that breeding stocks of nr-bearing chickens are presently being maintained.

Furthermore, the language of claim 3 appears unintelligible to us in the phrase "controllably introducing an nr sex-linked recessive dwarfism gene into a dwarf hen." Presumably, a dwarf hen is a dwarf because it *already* possesses an nr gene. Compare claim 3 with claims 1 and 4.

- End of Case -